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Rhode Island Department of Health

Capacity Development Strategy

Existing Public Water Systems

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http://www.health.state.ri.us/environment/capacity/cd.html

Revised 3/02

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Capacity Development for Existing Public Water Systems

Section I Introduction

The mission of the Rhode Island Department of Health (RIDOH) is "*to prevent disease and to protect and promote the health and safety of the people of Rhode Island*". An essential aspect of that mission is the efforts of the Office of Drinking Water Quality (ODWQ) to ensure the safety of the state's drinking water. This office coordinates a number of programs to help ensure every resident of Rhode Island has safe drinking water at home, school and work. An important part of this effort is the **Capacity Development** Program.

This document is the Capacity Development Strategy created by the Office of Drinking Water Quality of the Rhode Island Department of Health This Strategy presents the results of Rhode Island's efforts to meet the Capacity Development provisions of the Safe Drinking Water Act (SDWA) as amended in 1996. Section 1420 (c)(1)(C) requires the EPA Administrator to withhold a portion of Rhode Island's Drinking Water State Revolving Fund (DWSRF) allotment unless Rhode Island develops a strategy to help all existing Public Water Systems (PWSs) achieve and maintain Capacity. The State must be developing and implementing this strategy for existing public water systems by August 6, 2000.

For purposes of this Strategy, Capacity means that a Public Water System has the Technical, Managerial, and Financial capabilities to consistently comply with statutory and regulatory requirements. Capacity enables the water system to plan, achieve, and maintain compliance with State regulations and the National Primary Drinking Water Regulations (NPDWRs).

Capacity

The term *Capacity* is defined as a water system's *"ability to plan for, achieve, and maintain compliance with applicable drinking water standards"*. The amendments go on to describe the three key components of capacity as **technical, managerial**, and **financial**.

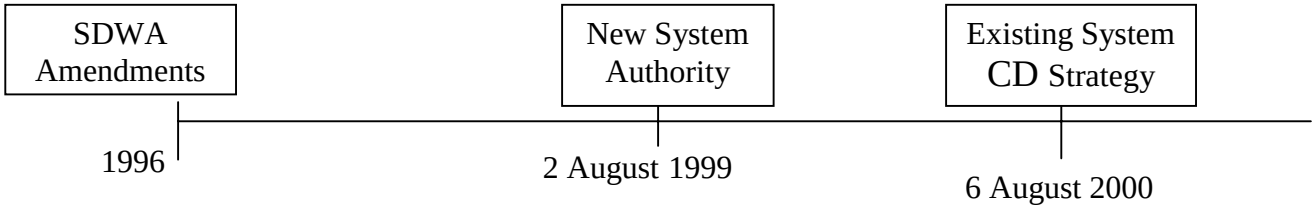
1. **Technical Capacity** refers to a water system's ability to operate and maintain its infrastructure. This includes the adequacy of infrastructure, technical knowledge, and implementation of that knowledge.

2. **Managerial Capacity** refers to the expertise of the water system's personnel to administer the system's overall operations. This includes ownership accountability, staffing and organization, and establishing effective external relationships.

3. **Financial Capacity** refers to the financial resources and fiscal management that support the cost of operating the water system including revenue sufficiency, credit worthiness, and fiscal management and controls.

Practically, Capacity means that a Public Water System must:

- ***Have sufficient infrastructure and know what they are doing (technical)***
- ***Know how and with whom they will do it (managerial)***
- ***And stay "in business" so it can get done (financial).***



SDWA Timeline

1996 The Safe Drinking Water Act (SDWA) Amendments create the **Drinking Water State Revolving Fund (DWSRF)** loan program. Rhode Island was directed to develop and implement a Capacity Development program to assist Public Water Systems (PWS) acquire and maintain technical, managerial, and financial capacity. **(§ 1452)**

1999 Rhode Island Department of Health (RIDH) Office of Drinking Water Quality (ODWQ) implements the **New Water System Capacity Assurance Plan.** Applies to *new* Community Water Systems (**CWS**) and *new* Nontransient, Noncommunity Water Systems (**NTNCWS**) commencing operation after 1 October 1999. **(§ 1420 (a))**

2000 RIDH submits (no later than 6 August 2000) an **Existing Water System Capacity Development Strategy.** Applies to all *existing* **CWS, NTNCWS**, and Transient Noncommunity Water System (**TNCWS) (§ 1420 (c)**

Reporting requirements are listed in Section IV, Implementation .

Section II
Public Participation and Comment

This Strategy is the result of an extensive public outreach program that collected suggestions, comments, and feedback from a wide cross-section of the drinking water stakeholders across Rhode Island to helps ensure the relevancy and validity of the program. **This office certifies that public comment was solicited on the five elements listed in section 1420(c) of the SDWA during the preparation of this strategy.** Stakeholder involvement was solicited in a wide variety of methods throughout the strategy development process. Methods include:

- In person, during the RI Earth Day/ Drinking Water Week festival, where capacity brochures were distributed. (Appendix A1)
- Via direct mail by surveying all 481 Public Water Suppliers in the state with a custom Self Assessment Survey (Appendix C2)
- In person utilizing the expertise and recommendations of the Capacity Development Advisory Committee. (Appendix A3)
- Electronically, via email, Usenet newsgroups, and the web.

Working closely with our Advisory Committee, we chose to include each of the five elements (A to E) suggested in the SDWA. Also included are a number of appendices that provide additional detail in specific areas of our Strategy.

Element A: Methods or Criteria Used to Prioritize Systems, was included in the strategy because it was felt that targeting systems most in need was an important method of focusing our efforts where time, money and effort would do the most good.

Element B: Factors that Encourage or Impair Capacity, was felt to be the least helpful of the five elements. It was included because it served as a good starting point for our stakeholder discussions, and allowed regulators to see the issues from the different viewpoints of the stakeholders.

Element C: Way the State will use SDWA Authority & Resources was included because it was felt to be the key element of the strategy. It collects a variety of new and existing programs under the umbrella of Capacity, and coordinates these programs to better serve the drinking water needs of the public.

Element D: Establish the Baseline and Measure Improvement, was included to provide a method of determining progress. Lack of a baseline would create difficulty preparing follow-up reports, and the data collected for the baseline establishment will be essential in the prioritization in Element A.

Element E: Procedures Used to Identify Interested Parties, was included to encourage the widest possible stakeholder involvement. Including this element allowed for public input to the process used by the Department to create its stakeholder list.

Stakeholder involvement will continue throughout the life of the Capacity Development program. Methods of continuing to educate stakeholders and collect feedback include email, the web, phone, mail, newsletters, press releases, training classes, circuit rider visits and in person contact.

Section III Strategy Elements (A to E)

SDWA § 1420 (c) (2) (A-E) requires Rhode Island to "consider, solicit public comment on, and include as appropriate" the following five elements:

A. Methods or criteria to prioritize systems [§ 1420 (c) (2) (A)]

B. Factors that encourage or impair capacity development [§ 1420 (c) (2) (B)]

C. How Rhode Island will use the authority and resources of the SDWA [§ 1420 (c) (2) (C)]

D. How Rhode Island will establish the baseline and measure improvements [§ 1420 (c) (2) (D)]

E. Procedures to identify interested persons [§ 1420 (c) (2) (E)]

Element A
Methods Or Criteria To Prioritize Systems
[§ 1420 (c) (2) (A)]

Method

During August 2000, and annually thereafter, The Rhode Island Department of Health Office of Drinking Water Quality will establish a prioritized listing of Public Water Suppliers. Each system will be assigned to one of four priority levels.

Level One Systems are systems with sufficient capacity, and where assistance is not recommended. The vast majority of existing systems will be Level 1. These systems will be monitored to ensure continued compliance with regulations

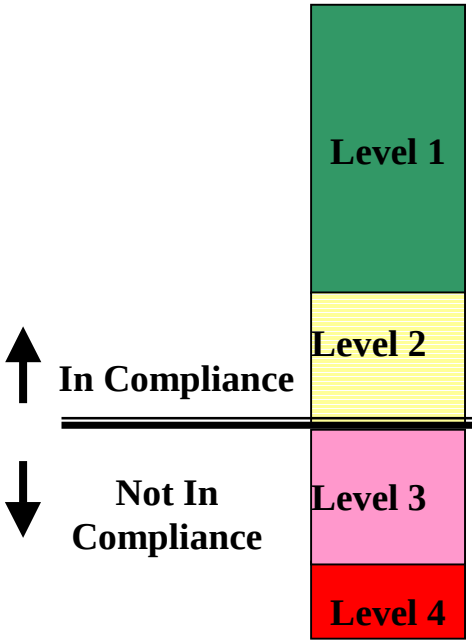
Level Two Systems are water systems that are presently in compliance, but would benefit from Capacity Development assistance. **§1420(c)**

Level Three Systems are water systems that are not presently in compliance, but can be brought into compliance via Capacity assistance. In general, the SDWA forbids expending money on systems without adequate Capacity, but **§1452(a)(3)(B)** allows DWSRF funding to assist systems in order to bring them within compliance.

Level Four Systems are systems not in compliance that cannot be brought into compliance through Capacity assistance. Enforcement action would be required. **§1452(a)(3)(A)**

Level 3 Systems that can be brought into compliance are ODWQ's highest priority. Level 2 Systems that can be advanced to Level 1 with technical or financial assistance are the next highest priority. These rankings will be derived from the extensive and detailed knowledge that exists within the ODWQ regarding the RI PWSs. This process was reviewed by the Capacity Development Advisory Committee.

Public Water System Ranking Scheme



Level 1 - No Assistance Recommended. Systems will be monitored to prevent slippage as systems age and new regulations come online

Level 2 - Assistance Recommended to maintain compliance. ***Second priority*** is Level 2 Systems that can be improved into Level 1 **§1420(c)**

Level 3 - Assistance Required to bring within compliance. ***Highest priority*** is Level 3 Systems that can be brought into compliance. **§1452(a)(3)(B)**

Level 4 - Enforcement Required, assistance cannot bring within compliance. **§1452(a)(3)(A)**

Criteria

The ranking of a PWS will be based on a number of existing and new data collection programs. These include:

- Existing data:
  - RIDOH Compliance Data
    - SNC: Significant noncompliance with any NPDWR or Variance (out of compliance for any 3 quarters out of the past three-year period.
    - Sanitary Survey results, including the knowledge of the inspectors.
    - Sampler knowledge.
  - Drinking Water State Revolving Fund (DWSRF) Data
    - Disadvantaged Community Status.

- DWSRF Applications & Project Priority List.
- DWSRF Intended Use Plan (IUP).

➢ Public Water System Data

- Consumer Confidence Reports (CCRs) (Appendix C4)
- Source Water Assessment Program (SWAP) Data (Appendix B4)
- Operator Certification Program (Appendix B6)
- Consumer complaint records
- Adequacy of supply
- Redundancy of infrastructure and supply

➢ New Public Water System Permit Applications

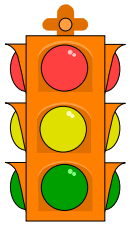
❖ New Data collected by DOH

➢ Expanded Sanitary Survey Data (to include managerial & financial information)

➢ New DWSRF Applications (Appendix B5)

➢ Annual License Renewal (Appendix C1)

➢ Capacity Development Surveys (Appendix C2)



Elements B
Factors That Encourage or Impair Capacity Development
[§ 1420 (c) (2) (B)]

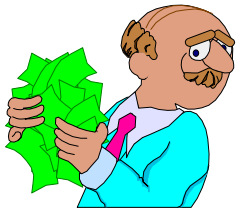
The SDWA, as amended in 1996, required Rhode Island to examine the factors that encourage and impair development of capacity by PWSs.

Stakeholder involvement in determining factors

The factors that encourage or impair was derived through a multi-faceted process involving as wide a variety of stakeholders as possible. An initial effort to collect public input during a Capacity Development public education /outreach effort on Earth Day 2000 met with very limited success. A great deal of public comment was received through stakeholder involvement in the Capacity Development Advisory Committee (Appendix A3). This group developed, and later commented on, the **List of Factors that Encourage or Impair Capacity Development** (Appendix D1).

Value of determining factors

Few of the factors arrived at were surprises. The expected concerns about regulation, cost, and consumer apathy were mentioned often. The most valuable aspect of discussing Element B was the interaction of the discussion itself. The Advisory Committee was broken down into small groups for the brainstorming session, and each group was intentionally mixed so that small systems operators were discussing factors with technical assistance providers, regulators, and large system operators. This interaction helped clarify the difficulties of treating all systems as the same. The interests, motivations, and issues for a mobile home park owner are significantly different than the concerns of a large city Community Water System.



Element C
How Rhode Island Will Use the Authority and Resources of the SDWA [§ 1420 (c) (2) (C)]

The Office of Drinking Water Quality has a rational basis to believe that this Strategy meets the statutory requirements set forth in the Safe Drinking Water Act, as amended in 1996. The reasons for this determination include:

- A historic record of safe drinking water within Rhode island, with a public awareness of the importance of environmental protection and conservation within the "Ocean State".
- A close, hands-on relationship between PWSs and state regulators.
- An umbrella of effective existing programs, policies and regulations, along with a set of new programs focusing on awareness of Capacity Development, education and communication.

The goal is to go beyond the statutory requirement of "prevention of noncompliance", and to improve the Capacity of all systems within the State, even those that have been and continue to be in compliance. Capacity Development needs to be more than a system that reacts to violations, it needs to make good systems better.

Rhode Island is in a relatively unique situation, in that close to 60% of the residents get their drinking water through a single water system, Providence Water. A great deal of the Capacity Development focus has been, and will continue to be, placed on maintaining a close working relationship with the water professionals running Providence Water to ensure the capacity of ProvWater. Capacity Development will also encourage diversification and development of water supply sources throughout Rhode Island so as to reduce the state's dependence on this single

supply and other isolated supplies such as Block Island and Jamestown. The vast majority of other water systems within the state are small, or very small, ancillary public water systems that are only in the water business to sell pizza, coffee, or doughnuts. These Transient, Non-Community Water Systems are almost entirely groundwater supplied, and many systems require little or no treatment to meet *present* drinking water standards. Raising the awareness of capacity within this group of suppliers is one of the more difficult challenges facing the Capacity Development program within Rhode Island.

In developing a description of how the State will help existing systems gain or maintain capacity, the ODWQ and the Advisory Committee looked at all the current authorities and resources and the factors that encourage and impair capacity. They discussed possible tools that could be developed to help water systems achieve or increase capacity. ODWQ will continue and expand the use of all current authorities and resources to carry out an effective strategy. (The table in Attachment D illustrates how ODWQ will use the tools and resources to satisfy this element of the strategy.)

Table of Program Capacity Applicability

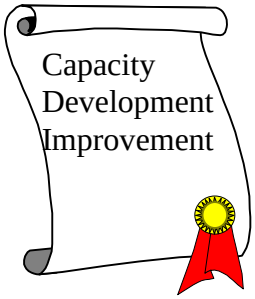
Below is a summary table of existing[1] and new or modified programs[2] that make up the capacity strategy and its focus on helping systems achieve and maintain T, M, or F capabilities.

	Technical	**Managerial**	**Financial**
Appendix /Capacity Program	Ensuring adequate infrastructure and technical knowledge	Ensuring trained, knowledgeable, and accountable personnel	Ensuring that the system will raise enough revenues to cover costs now and in the future
A4 Public Education & Conservation	High	High	High

[1] Existing programs are in **BOLD.**

[2] New or modified programs are in *ITALICS.*

	Technical	Managerial	Financial
Capacity Program / Appendix	Ensuring adequate infrastructure and technical knowledge	Ensuring trained, knowledgeable, and accountable personnel	Ensuring that the system will raise enough revenues to cover costs now and in the future
B1 *Improved sanitary Inspections*	High	High	High
B2 Sampling Program	High	High	Low
B3 New System Application	High	High	High
B4 SWAP	High	Low	Low
B5 DWSRF	High	High	High
B6 Operator Certification	High	High	Low
C1 License 2000	Low	High	Low
C5 PWS Training & Technical Assistance	High	High	High
C6 Contingency Planning: Water Supply Development Studies	High	Low	Low



Element D
How Rhode Island Will Establish the Baseline and Measure Improvements [§ 1420 (c) (2) (D)]

Under this element, ODWQ identifies the information and methods that will be used to establish a baseline and measure improvements. This information provides the tools that the ODWQ needs to produce and submit a report to the Governor on the efficacy of the Capacity Development Strategy and the progress made toward improving the capacity of PWSs in the State (SDWA Section 1420(c)(3)).

Baseline

New Systems will be determined to have sufficient capacity prior to receiving an operating license via the New System Application process. The application submitted prior to startup will become the baseline and basis for comparison for new CWS and new NTNCWS.

All existing systems and new Transient, Noncommunity Water Systems (TNCWS) will be ranked by the Office of Drinking Water Quality using the methods described in Element A. The August 2000 ranking will serve as the baseline ranking of all Rhode Island Public Water Systems.

As the information contained in the License 2000 (see Appendix C1 License 2000) database expands, this system will become a central repository of training records, compliance, and Operator Certification information for each water system. Trends of violations, consumer complaints and violations would be quickly become apparent. Decreasing trends would indicate progress, while problem would be targeted for increased technical assistance and attention.

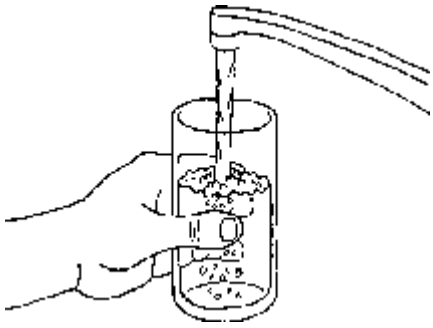
Measure Improvement

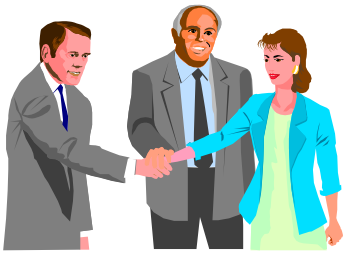
Progression from the lower levels of the ranking scale to the upper levels during the annual August rankings will be a measurement of improvement. Another indication of improvement will be a continued ability to maintain a high level of compliance, even as new regulations come on line.

An improved awareness and understanding of Capacity Development by the Public Water Systems would be an important indication of improvement. Showing improved responses after comparing the results of the follow-up PWS surveys (scheduled for May 2001 and 2003) to the initial survey (Appendix C2) would indicate changed attitudes, especially in the financial area.

Improved staff awareness of Capacity within the Department of Health and other State and Federal agencies will also indicate program success. Regulatory agencies, including the Rhode Island Water Resource Board and the Public Utilities Commission, need to understand which of their existing and new programs will improve Capacity. Local officials, planners, zoning and conservation commissions need to "speak" Capacity Development, and understand how their actions and decisions impact capacity.

Capacity understanding and improved percentage of participation with technical assistance programs will be an indication of success with the Public Water Systems in the State. Many small systems need to shift their attitudes away from a reactive, "bare minimum required by regulation" mindset towards a proactive, customer service attitude that focuses on providing the cleanest water practical.





Element E
Procedures Used To Identify Interested Parties
[§ 1420 (c) (2) (E)]

A variety of methods were used to identify members of the public and add them to our active stakeholder list. The initial list was created through a brainstorming session held within the ODWQ. The database of Rhode Island Public Water Suppliers was used to contact PWSs. Additionally, present participants in the Source Water Assessment Program Advisory Committee were contacted. Members of the public were approached at the Earth Day 2000 festival. Public interest and conservation organizations were identified through a web search, and invited to participate.

To date, two meetings of the Advisory Committee have been held. The first meeting was held on May 31st, and was focused on Element B, Factors that Encourage or Impair Capacity. Attendees were surveyed to ask for additional contacts. The July 19th meeting reviewed the results of the Self-Assessment, examined the Draft Strategy, and discussed the Public Education program.

A web site (http://www.health.state.ri.us/environment/capacity/cd.html) was established, linked from the main Department of Health web site. An electronic mail alias (safewater@DOH.State.RI.US) was created and linked from the web site to simplify communications. Email was used extensively to communicate during the development of the strategy (all members had email prior to the start of the program). Draft materials, survey results, and drafts of the strategy have been (and continue to be) posted on the web site to increase visibility and improve access to the information.

Once formed, the goals of the Advisory Committee has been to provide ideas, suggestions, and feedback to the ODWQ on all aspects of the Capacity Development program.

Section IV Strategy Implementation

ODWQ solicited and considered public comments on the elements required by SDWA §1420(c) regarding the development of a strategy to assist PWSs in achieving and maintaining capacity. The capacity development strategy will be implemented primarily by ODWQ, with assistance from other State agencies and technical assistance providers. The overall goals of the strategy are to help systems improve their current abilities by directing resources to systems most in need, and to maintain or improve the current level of public health protection provided through the implementation of the SDWA and State regulations and programs.

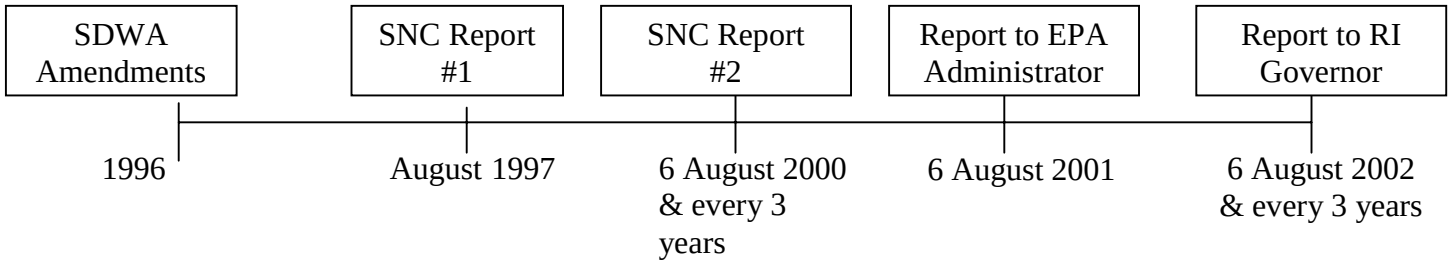
The implementation of this Strategy is an on-going process. Work continues on the Strategy, and as feedback is received on programs the Strategy will continue to evolve in order to best meet the needs of Rhode Island residents.

The Rhode Island Department of Health will be submitting the Strategy for EPA approval in early August 2000. Existing programs that support Capacity Development will be improved to reflect the requirements of the program.

Recently approved programs such as the Operator Certification Program and the New Water System Capacity Assurance Plan will continue to be put into place. No new water systems have been constructed recently, so the impact of the New Water System requirements has been limited. The Operator Certification program will have a major impact on many of the systems within the State.

New programs will help pull together existing programs and make Capacity Development the coordination program it needs to be. The License 2000 system will provide regulators the tools needed to track water systems, violations, and operator certification. The system can be modified to make existing pws data available to the public. The Public Outreach program will make the public aware of capacity issues, and will encourage water conservation throughout the state.

Reporting Requirements



Annually Rhode Island must provide documentation showing the ongoing implementation of the Capacity Development Strategy as part of the State's **Capitalization Grant Application**.

2000 Rhode island must submit, NLT 6 August 2000, to the EPA the second report on water systems that have a "history of significant noncompliance" This reoccurring **SNC Report** is due every three years.

2001 RIDH submits the EPA Administrator the **Capacity Development Success Report.** to USEPA, no later than 6 August, 2001, a report that “details the success of enforcement mechanisms and initial capacity development efforts in helping those PWSs listed as having a history of significant noncompliance to improve their technical, managerial, and financial capacity”.

2002 RIDH submits the **Governor's Capacity Development Status Report.** Submitted to Governor of Rhode Island, no later than 6 August, 2002, and every three years afterwards, a report that “details the success of enforcement mechanisms and initial capacity development efforts in helping those PWSs listed as having a history of significant noncompliance to improve their technical, managerial, and financial capacity”. This report will also be made available to the public.

2003 Rhode island must submit, NLT 6 August 2003, to the EPA the third report on water systems that have a "history of significant noncompliance" This reoccurring **SNC Report** is due every three years.

Section V Glossary

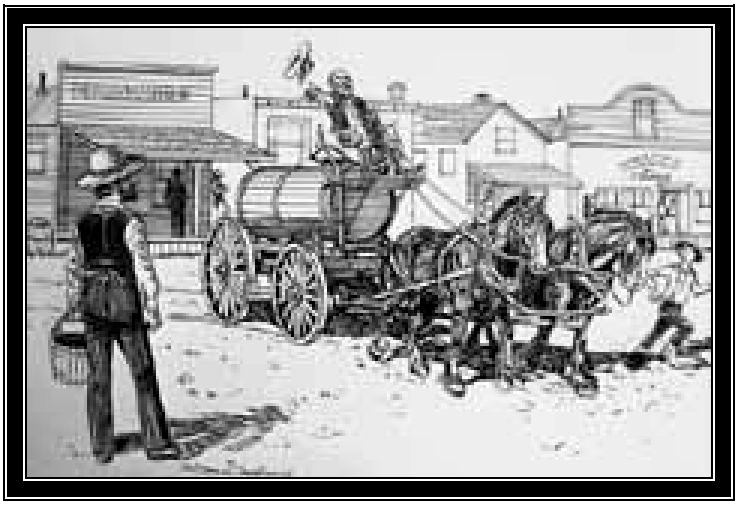
AMWA	Association of Metropolitan Water Agencies
Ancillary System	A PWS that supplies water as an ancillary function of their principal business. For example, a mobile home park.
AWWA	American Waterworks Association
BMP	Best Management Practices
CCR	Consumer Confidence Report
CDC	Centers for Disease Control and Prevention
Community Water System (CWS)	A public water system that - (A) serves at least 15 service connections used by year-round residents of the area served by the system; or (B) regularly serves at least 25 year-round residents.
Contaminant	Any physical, chemical, biological, or radiological substance or matter in water.
CWA	Clean Water Act
Digital Ortho Photo	Geo-rectified digitized aerial photographs. These are aerial photographs that have had all distortion removed and can have maps overlaid on them accurately. Accurate latitude and longitudes can be obtained from these types of photographs. Useful in land uses determination.
Director	the Director of the Department of Health
Disadvantaged Community	The entire service area of a public water system meets the following criteria: **1**. Has a service area Median Household Income (MHI) less than or equal to the State non-metropolitan MHI which is currently $37,247 **2**. Has a ratio of 25% interest subsidy debt service schedule for a planned project plus the existing rate structure and resultant user fee to the service area MHI greater than .999 percent **3.** Additionally, in order to qualify for the DWSRF disadvantaged community program an area must be provided drinking water by a Community Public System and that water system must have applied for inclusion to the State's project priority list and for a DWSRF loan from the Department of Health and the RI Clean Water Finance

	Agency respectively. Systems found to be eligible will qualify for the following DWSRF interest subsidies **in addition to the standard 25% subsidy:** User fees with DWSRF Debt service/Service area MHI greater than or equal to — Interest subsidy 999% — 25% 1.000% to 1.249% — 50% 1.250% to 1.499% — 75% Greater than or equal to 1.500% — 100%
Drinking Water State Revolving Fund (DWSRF)	Drinking Water State Revolving Fund established in accordance with the Safe Drinking Water Act Amendments of 1996
EPA	Environmental Protection Agency
Financial Capacity	the water system's ability to acquire and manage sufficient financial resources to allow the system to achieve and maintain compliance with the Safe Drinking Water Act as amended August 6, 1996
GAC	Granular Activated Carbon
GIS	Geographic Information System
GPS	Global Positioning System
GWR	Ground Water Rule
GWUDI	Ground Water Under the Direct Influence (of Surface Water)
History of Significant Noncompliance	Being in Significant NonCompliance (for any single contaminant or for different contaminants) during any three quarters for the previous 3 years.
HEALTH	Rhode Island Department of Health
Inspection	A water supply evaluation conducted by the Office of Drinking Water Quality, RIDOH (sanitarians) that considers disinfection, source information, treatment, production/storage, distribution, and management. Sometimes referred to as a Sanitary Survey.
IUP	Intended Use Plan
Managerial Capacity	the ability of a water system to conduct its affairs in a manner enabling the system to achieve and maintain compliance with the Safe Drinking Water Act as amended August 6, 1996

Maximum Contaminant Level (MCL)	The maximum permissible level of a contaminant in water which is delivered to any user of a public water system.
NAWQA	National Water Quality Assessment
Noncommunity Water System	A public water system that serves persons in a non-residential setting.
Non-Transient Non-Community Water Systems	A water system that serves at least 25 of the same non-resident persons per day for more than 6 months per year. Examples include schools, daycare facilities, office buildings and industrial facilities.
NPDWR	National Primary Drinking Water Regulation
OGWDW	Office of Ground Water and Drinking Water
Primacy State	Primacy means that a state has adopted rules at least as stringent as federal regulations and has been granted primacy enforcement responsibility. The Department of Health has been granted the responsibility for ensuring the SDWA is implemented in Rhode Island, and has the authority to enforce the laws and related regulations.
Privately Owned System (POS)	A public water system that is not owned by a governmental agency
POTW	Publicly Owned Treatment Works
PSOC	Potential Source of Contamination
Public Water System	A system intended to provide potable water to the public, which system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least sixty days per year.
Publicly Owned System	A public water system that is owned by a governmental agency
SDWA	Safe Drinking Water Act
SDWIS	Safe Drinking Water Information System
"Small" System	A PWS serving fewer than 3,300 persons
Source Water Assessment Program (SWAP)	Section 1453 of the Safe Drinking Water Act Amendments of 1996 required each state to develop a Source Water Assessment Program. This program: delineates areas providing source waters for all Public Water Supplies (ground water and surface water), inventories potential sources of contamination and their associated contaminants

	within those areas, and determines the susceptibility of each Public Water Supply to contamination from those potential sources.
Source Water Protection Area (SWPA)	The surface and subsurface area surrounding a source of drinking water (a water well, wellfield, or surface water intake), supplying a public water system, through which contaminants are reasonably likely to move toward and reach the source of drinking water.
State	The state of Rhode Island or any agency or instrumentality thereof
SWTR	Surface Water Treatment Rule
System Improvement Plan	A document containing the necessary plans, specifications, and studies relating to the construction of a complete project of drinking water facilities
Technical Capacity	The physical infrastructure of the water system including the adequacy of the source water and the adequacy of treatment, storage, and distribution infrastructure and the ability of system personnel to adequately operate and maintain the system.
Transient Non-Community Water Systems	A non-community public water system that does not regularly serve the same persons; but does serve (including coffee) at least 25 people at least 60 days of the year. Restaurants and hotels are examples of transient non-community water systems.
TOC	Total Organic Carbon
UIC	Underground Injection Control
USEPA	U. S. Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
"Very Small" System	A PWS serving fewer than 500 persons
Vulnerability	The numbers, types, and proximity of potential sources of contamination to public water supply wells or intakes.
Watershed	A topographic boundary area that is the perimeter of the catchment area of a stream. The area within a line drawn connection the highest points uphill of a drinking water intake, from which overland flow drains to the intake.

Wellhead Protection Program (WHPP)	Section 1428 of the Safe Drinking Water Amendments of 1986 required each state to submit and implement a voluntary program to protect public water supply wells (ground water) from contaminants, which may have adverse effects on human health. The goals of the program are achieved by delineating wellhead protection areas, inventorying and controlling potential ground water contaminating sources in those areas, assessing the relative threats to public water supplies posed by these various potential sources, and educating the stakeholders on methods they can use to protect their drinking water resources.
WHPA	Wellhead Protection Area
WQPP	Water Quality Protection Plan
WSSMP	Water Supply System Management Plan



Section VI Appendices

Appendix A Public Outreach Program

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Appendix A1 Public Outreach Programs Publications

A variety of different documents have been created to help expand public awareness of the capacity development issues and collect stakeholder feedback. A Public Comment Form was designed to collect comments and feedback from members of the General Public. It was used to collect comments during Earth Day 2000, held at Goddard State Park on Sunday, May 7th. It is available for download from the Capacity Development web site.

Another form distributed during the Earth Day function, and on the Capacity Web Site, is the capacity Development Brochure. This document summarizes the Capacity Development process, in terms appropriate to the general public. It also encourages readers to learn more about Capacity by suggesting a variety of related web sites.

The enclosed PowerPoint presentation was developed for the initial meeting of the Capacity Development Committee. A version was printed in color and displayed during the Earth Day public outreach. It is available on the Internet linked from the Capacity Development site, and will be shown at future capacity meetings and presentations.

Future publications under consideration include a number of projects. A newsletter focused on the small and very small public water systems is in the early design stages. Discussed by the Capacity Development Advisory Committee, the majority of members felt that a newsletter geared towards practical Technical, Managerial and Financial tips, as well as regulatory forecasts, would be helpful to the small system within the State.

Another project under consideration would be a small card focusing on home water conservation tips that could be developed up by the State or a subcontractor, and enclosed by the public water systems with a billing or with the CCRs. If done, the material on the card would be developed in concert with the Advisory Committee.

Many water systems have indicated interest in templates that would allow them to "fill-in the blanks" of a boilerplate financial plan, budget, emergency plan, or training plan. Contact lists and a variety of checklists have also been suggested as potential materials that would be of assistance to the water systems.

Capacity Development Strategy
Public Comment Form

The **Safe Drinking Water Act Amendments of 1996** directed the State of Rhode Island to create a **Capacity Development Strategy**. An essential part of this Strategy is collecting input from concerned citizens, including public water suppliers, consumers, and members of environmental and other public interest groups. In order to collect this input, we would like you to please take a few minutes and complete this form.

Thank you for your time and interest!

A. The Safe Drinking Water Act Amendments of 1996 provide Rhode Island with a *limited* amount of funding to help local water suppliers improve training, replace existing equipment, and construct new water piping, wells, and systems. What methods should be used to determine who gets helped first?

_____

_____

B. Providing safe drinking water requires the cooperation of many groups and individuals, both public and private. What are some of the factors the help or hinder the effort to supply quality drinking water for Rhode Island?

Help	Hinder
_____	_____
_____	_____
_____	_____

C. The State of Rhode Island will be providing a variety of assistance to local public water suppliers. What kinds of help will be most useful?

_____

_____

D. The Department of Health is determining the existing condition our state's water systems (establishing a baseline) and then deciding how to measure progress. How can we best do this?

_____

_____

E. We want everyone who is interested in safe drinking water to be involved in the process of creating the Rhode Island Capacity Development Strategy. Who do you feel would be interested, and how do we contact these people / groups?

_____


Brochure & C.D.
PowerPoint Overview & Public Education Comment Form
(available upon request)

Appendix A2 Public Outreach Internet Public Outreach

A series of web pages have been created to help increase the public feedback on the Capacity Development process, and the availability of the Capacity information. The primary Capacity Development web address is http://www.health.state.ri.us/environment/capacity/cd.html. This page is linked from the Office of Drinking Water Quality page, which is in turn linked from the Department of Health page. The publications listed in Appendix A1 are linked from the site, as well as a variety of web sites that will be useful to anyone wanting to learn more about Capacity Development.

Helpful Capacity Development Links

Environmental Protection Agency	
Office of Ground Water & Drinking Water	http://www.epa.gov/safewater/
Information for the Public on Preparing Capacity Development Strategies	http://www.epa.gov/OGWDW/smallsys/cdguid/nfo-pub.html
Office of Ground Water & Drinking Water	http://www.epa.gov/OGWDW/
Drinking Water State Revolving Fund	http://www.epa.gov/safewater/dwsrf.html
Small Systems & Capacity Development	http://www.epa.gov/safewater/smallsys.htm
Small Systems Information and Guidance	http://www.epa.gov/safewater/ssinfo.htm
EPA Academy 2000	http://www.epa.gov/owow/watershed/wacademy/acad2000.html
Surf Your Watershed	http://www.epa.gov/surf2/

Other Government Links	
RI Water Resource Board	http://webster.wrb.state.ri.us/
USGS RI information	http://water.usgs.gov/pubs/FS/FS-039-96/
RI Dept. of Environmental Management	http://www.state.ri.us/dem
RI Clean Water Finance Agency	http://www.state.ri.us/ricwfa/

University of Rhode Island	
University of RI Cooperative Extension	http://edc.uri.edu/cewq/
URI Mapping Info	http://www.edc.uri.edu/gis/
Other Useful Links	
Groundwater Foundation	http://www.groundwater.org/
American Water Works Association	http://www.awwa.org/asp/default_consumers.asp

Appendix A3 Public Outreach Capacity Development Advisory Committee

Organization	Name	Web Page	Phone Number	Email Address
Atlantic States Rural Water & Wastewater Association	Steven Levy	http://www.asrwwa.org	1-207-729-6569	Mrwa@mainerwa.org
Atlantic States Rural Water & Wastewater Association	Robert Bozikowski	http://www.asrwwa.org	401-276-0863	Robozi@msn.com
Audubon Society of Rhode Island	Eugenia Marks	http://www.asri.org	401-949-5454	Emarks@asri.org
CADMUS	Ian Kline	http://www.cadmusgroup.com	1-781-434-2526	Ikline@cadmusgroup.com
CADMUS	Suzanne Moore	http://www.cadmusgroup.com	1-781-434-2519	smoore@cadmusgroup.com
DOH ODWQ	Clay Commons	http://www.health.state.ri.us/environment/swaphome.htm	401-222-3436 ext. 2237	ClayC@doh.state.ri.us
DOH ODWQ	Dana McCants	http://www.health.state.ri.us/environment/cd.html	401-222-7824	Danam@doh.state.ri.us
DOH ODWQ	June Swallow	http://www.health.state.ri.us/environment/dwq.htm	401-222-3436 ext. 2224	JuneS@doh.state.ri.us
EPA Region 1	Mark Sceery	http://www.epa.gov/region1/	1-617-918-1559	Sceery.Mark@epmail.epa.gov
EPA Region 1	Ellie Kwong	http://www.epa.gov/region1/	1-617-918-1592	Kwong.Ellie@epamail.epa.gov
EPA Region 1	Jackie LeClair	http://www.epa.gov/region1/	1-617-918-1549	Leclair.Jackie@epamail.epa.g
Maple Hill Mobile Home Park	Paul Labrecque		401-568-8310	Paullabrecque@juno.com
NEIWPCC	Karen Sergeant	http://www.neiwpcc.org	978-323-7929	KSERGEANT@neiwpcc.org
NEWWA	Jeff Fencil	http://www.newwa.org/	508-893-7979	Jfencil@newwa.org
Pawtucket Water Supply Board	Darlene Capuano	http://www.pwsb.org/	401-729-5022	pwsblab@tp.net
Providence Water Supply Board	Michael Covellone	http://www.provwater.com	401-521-6300 x 7310	mcovellone@provwater.com
RI Economic Development Council	Paul Harden	http://www.riedc.com/startframe.html	401-222-2601	Riedc@riedc.com
RI/ CN RWA	Chris Till	http://www.aquasourceinc.com	860-684-9475	Ctill@aquasource.com
RIBA (Aqua Science)	Roger Warren		401-438-7400 401-397-3100	Ribldrs@ids.net
URI Cooperative Extension	Lorraine Joubert Alyson McCann	http://www.edc.uri/cewq/	401-874-2138 401-874-5398	Ljoubert@uri.edu Alyson@uri.edu
WRB	Will Riverso Connie McGreavy	http://www.wrb.state.ri.us	401- 222-5625 401-222-5731	wriverso@wrb.state.ri.us Cmcgreav@wrb.state.ri.us

Appendix A4 Public Outreach Public Education & Conservation

The key to the Capacity Development Public Education & Conservation Program is to take advantage of the extensive and varied programs in place. Capacity Development information can be easily and inexpensively added to public outreach programs already in place. Where necessary and appropriate, DWSRF set-aside funding can be efficiently used to expand the scope and reach of existing programs to reach a broader population.

Public outreach can be broken down into three targeted groups. These groups would be the:

1. Suppliers
2. Planners
3. Consumers

Suppliers

The Suppliers Group includes the employees, operators, managers and owners of the 481 Public Water Systems within the state of Rhode Island. This education includes classroom training, primarily focusing on the Technical area, being provided under existing state contract by New England Water Works Association (NEWWA). One-on-one technical assistance is currently being delivered by circuit riders from Atlantic States Rural Water & Wastewater Association (ASRWWA). New training courses, expanding the coverage of the Managerial and Financial areas, is being developed and piloted by NEWWA.

Planners

City and town officials, planning board members, and zoning board officials are all key players in the Capacity Development program. Reaching these officials is often difficult and time consuming, as they tend to be busy people with full schedules. The University of Rhode Island Cooperative Extension Program has an existing program (http://www.edc.uri.edu/cewq/munitrai.html) targeted towards these local officials. Known as the Municipal Watershed Training Program, they utilize a series of case studies and practical examples to illustrate watershed management problems and control options. The Office of Drinking Water Quality has approached URI Cooperative Extension in order to expand the content of this program to include additional Capacity Development material.

General Public

The final category, general public, includes everyone that is not included in the first two groups. Made up of mostly consumers, it also includes a variety of Non-Governmental Organizations and public interest groups. It also includes special interest groups of stakeholders, such as builder associations. Reaching such a diverse group can be both expensive and time consuming. Rhode Island benefits from having a nearly ideal tool in place to reach many of the consumers with this group. Coordinated through the University of Rhode Island's Cooperative Extension Program, the Rhode Island Home*A*Syst program (http://www.edc.uri.edu/homeasyst/)is a collection of trained volunteers that conduct workshops, provide training, and distribute mailings throughout the state to provide educational materials including pollution prevention and water conservation. The Office of Drinking Water Quality has approached URI Cooperative Extension in order to expand the content of this program to include additional Capacity Development material.

Appendix B1 Existing Programs Sanitary Inspections

Sanitary Inspections (surveys) provide regulators from the Rhode Island Department of Health a first hand opportunity to meet operators, learn about systems, see actual field conditions, provide technical assistance, and evaluate each of the Public Water System within the State. This on-site review of the facilities, equipment, operation, maintenance and monitoring compliance provides the Office of Drinking Water Quality a detailed method of inspecting, guiding, and improving the capacity of each system.

State policy requires each system to be inspected at least once every five years, and more often if there are infrastructure changes, violations, or concerns with a particular system. One or more trained state inspectors conduct each inspection. Each inspector is provided with written records of previous surveys, sample violations, and inspection checklists. Inspectors also have a great deal of historic experience within the Department, and have often visited systems on multiple occasions. This provides the inspectors a unique, long-term view of systems changes. As Source Water Assessment Program information becomes available, inspectors are being provided with maps, SWAP printouts, and aerial photography of the system being inspected.

Inspectors will play a key role in establishing the Prioritized List of PWSs described in Element A. Armed with the specific, objective information obtained during a Sanitary Survey, the ODWQ staff will be able to rank systems in order to determine which systems are in most need of Capacity Development assistance.

Data collected from Sanitary Surveys will be entered into License 2000, the new data collection and sharing software application being brought online during 2000. This will provide ready access to past survey information, while tying the data into the Operator Certification, License Renewal, and public complaint information.

Appendix B2 Existing Programs Sampling Program

The water-sampling program, as designed and instituted within the State of Rhode Island, provides the State with an intimacy almost unique. State sanitarians with many years of experience sample the majority of the systems within the state. This experience provides the Department of Health with a familiarity and historic prospective that allows for an understanding of not only where a system is at, but where they are coming from, and what changes have been made.

The State Water Sample Laboratory conducts most of the samples done within Rhode Island. This speeds up the process, and allows for quick notification whenever violations do occur.

Appendix B3 Existing Programs New System Licensing

Description

Section 1420(a) of the 1996 SDWA, as amended, required the Rhode Island Department of Health to develop a capacity plan for certain new systems. The first step was for Rhode Island to demonstrate that it had the legal authority to enforce these regulations. The plan created will ensure that all ***new*** community water systems (CWS) and all ***new*** nontransient-noncommunity water systems (NTNCWS) beginning operation after 1 October 1999 can demonstrate Capacity in the Technical, Managerial, and Financial areas. These new systems must have sufficient capacity to meet the National Primary Drinking Water Regulations (NPDWRs) in order to be licensed to operate as a water supplier in Rhode Island.

Rhode Island Plan

The New Water System Capacity Assurance Plan:

1) Demonstrates a basis of authority for ensuring that all such systems demonstrate technical, managerial and financial capacity;

2) Identifies at least one control point in the new system development process at which the authority will be exercised;

3) Contains a plan for program implementation, including evaluation and verification.

Impact to Date

The Capacity Assurance Plan has had a limited impact to date because Rhode Island has not had any new systems apply for an operating permit since the plan was implemented.

Appendix B4 Existing Programs
Source Water Assessment Program

Rhode Island's Source Water Assessment Plan - Executive Summary

The Source Water Assessment Program, or SWAP, was established by the 1996 Amendments to the federal Safe Drinking Water Act (SDWA), specifically by the addition of Section 1453 of that Act. Its stated purpose is to assess the threats to sources of public drinking water, "for the protection and benefit of public water systems, and to support monitoring flexibility". It is funding comes from a $1.2 million set-aside from the Drinking Water State Revolving Fund. In Rhode Island, the Office of Drinking Water Quality in the Department of Health is responsible for producing these assessments, and will provide them to the suppliers and general public.

The US EPA has approved the State's Source Water Assessment Plan. All assessments must be completed by 4 May 2003.

In writing the Source Water Assessment Plan, the Department of Health made extensive use of both a Technical and a Public Advisory Committee. The committees included representatives of the health and environmental communities, in addition to educators, realtors, municipal officials and water suppliers.

The Department worked closely with DEM in coordinating the Source Water Assessment Program with the Wellhead Protection Program to make them complementary and to maximize the benefits of both to suppliers and municipalities.

There are four basic requirements of the SWAP:

1. The first step is to delineate the land area that contributes water to the source. This has been done for public wells under DEM's Wellhead Protection Program, based on various hydrogeologic methods. For surface water supplies, the contributing area is the watershed that feeds the reservoir.

2. The second step is to inventory all potential sources of contamination to the water supply within the SWPA. These are land uses that use, store, or generate chemicals or microbes that are considered risks to human health, and may include everything from industries and agriculture to residences and wildlife. Under the SWAP, existing land-use information will be updated and field-verified, town by town, by citizen-volunteers trained under the Home*A*Syst program.

3. The third step is to assess the overall susceptibility of the supply to contamination, and to estimate the risk associated with each potential source of contamination. This is being done in close cooperation with URI's Cooperative Extension Service, with extensive use of GIS technology.

4. The last step is to make the results of the assessments known to the suppliers and consumers of public water, as well as to town planners, developers and others with an interest in the long-term quality of our drinking water supplies.

Process: All ground and surface water supplies have had at least an initial recharge area delineation completed; a few wells will have refined delineations done under the SWAP. The Department of Health and URI CE will approach the inventory effort on a town-by-town or regional basis, as appropriate. The first step will be to convene a committee, with the following people and groups to be invited:

- all public water suppliers within the town, and those whose recharge areas exist within the town,
- town government: planners, conservation commissioners, zoning boards, etc.,
- local land trusts, local citizens' groups, Chamber of Commerce, others,
- business groups, especially developers and real estate interests,
- RI DEM, Office of Water Resources,
- URI Cooperative Extension,
- Conservation District representatives, and
- The Water Resources Board.

In many areas of the state, committees already exist that are addressing land-use and water-quality issues. By coordinating with the Partners in Resource Protection (coordinated by DEM’s Office of Water Resources) and other contacts throughout the state, the Department of Health will try to link with these existing committees. Other persons or groups will be invited to fulfill the

purposes of the Source Water Assessment Program. In particular, it is important to include developers and realtors early in the process to gain the widest possible base of support for the protection that we hope will result from the Source Water program.

The local committees will be asked to assess the quality of existing data, recruit volunteer survey teams if necessary (to be trained by RI Home*A*Syst), and advise the State on how the assessments can best serve the town's needs. In particular, the SWAP will link with the towns' Wellhead Protection Plans, either to support existing plans or to serve as a basis for producing a new WHPP.

To produce the assessment, risk values have been assigned to the various land-use categories and soil types, well types and substrates. These values will be entered into a matrix that will yield a numerical risk ranking. This will result in an estimation of the vulnerability (based on natural features and well construction) and susceptibility (based on the presence of high-risk land uses) of the water source.

Distribution of the results of the assessments will be concentrated at the municipal level, since land use control and other avenues of drinking water protection are strongest there. Of course, water suppliers, town administrators and planners, and libraries will receive multiple copies; the Consumer Confidence Reports of community water suppliers will contain summaries of the assessments and information on how to get a full copy. Maps, tables and text will be available online for those with Internet access. We will be relying on the local advisory committees to offer suggestions on other distribution techniques. Education of water consumers and residents is still the most cost-effective protection measure available!

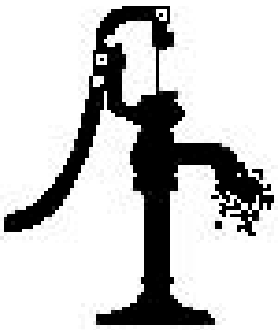
The goal is to present this information in a way that will support protection efforts. There will be two direct benefits to water suppliers from the assessments. The first is the information itself, along with the public awareness and support for protection that we hope will result from the process. The second is the stated intent of the law, which is to support monitoring flexibility. If a particular contaminant is not present in a Protection Area, and has never been detected in the water, then a monitoring waiver can be granted. This has the potential of saving a system hundreds of dollars per year in testing fees.

One more general benefit from this effort will be the format of the information collected. The data on which the assessments are based will be made available

on computer disks, in a common spreadsheet format. This will allow water systems, town planners or other bodies to update the assessments and keep them current and relevant long after the EPA mandate is satisfied.

It is generally accepted that it is cheaper to protect water from contamination than to treat the water or find new sources. The intent of the Source Water Assessments is to inform suppliers, town and state officials, and consumers of public waters of the threats to their water quality, and enable them to take appropriate action to protect their water. Public participation in the process will make the assessments both more timely and more useful to the public.

For more information the about Source Water Assessment Program, or to become involved with the Program in your community, contact Clay Commons at the Office of Drinking Water Quality, RI Department of Health, Room 209 Cannon Building, 3 Capitol Hill, Providence, RI 02908-5097, telephone (401) 222 - 6867, email clayc@doh.state.ri.us. Information is also available online at www.health.state.ri.us.



Appendix B5 Existing Programs Drinking Water State Revolving Fund

The SDWA amendments of 1996 recognized that many systems would not be able to finance treatment facilities to comply with both new and existing requirements. To resolve this, Congress authorized $9.6 billion nationally, to be appropriated over a number of years, to establish a Drinking Water State Revolving Fund (DWSRF) program. Similar to the state revolving fund program authorized by the Clean Water Act, EPA distributes grants under the drinking water program to provide the initial capital for the states' funds. The states, in turn, must match these dollars by 20%, identify investment priorities and manage the loan program. As loans are repaid, the fund is replenished, and new loans are made for other eligible projects. Systems applying for DWSRF loans must demonstrate capacity in order to receive the loan (§1452(a)(3)(A)

Within Rhode Island, DWSRF money has already been put to good use, improving the capacity of various systems. As of December 1999, Rhode Island had received a total of $19,679,300 representing its entire 1997 and 1998 federal capitalization grant awards. The State will apply for its 1999 grant in the amount of $7,463,800 by September 30, 2000. In the past year Providence Water Supply ($5,000,000) and Shady Acres Nursing Home ($10,000) have taken out DWSRF loans. It is anticipated that Providence Water ($4,500,000) will finance additional infrastructure repair through the DWSRF during the coming year. Also, other large systems such as Kent County Water Authority ($10,000,000) and Newport Water ($3,000,000) are expected to enter into binding loan commitments in 2000. The State continues to work closely with small systems such as Glendale Water ($100,000), Nasonville Water ($30,000), and Block Island ($1,300,000) in an effort to finance their projects through the DWSRF. The Project Priority List for the next funding year will be developed in the summer of 2000.

Appendix B6 Existing Programs Operator Certification

On July 18, 1996 Rhode Island adopted the *Rules and Regulations Pertaining to the Certification of Public Drinking Water Supply Treatment & Public Water Supply Transmission & Distribution Operators.* These requirements went into effect July 1, 1997 and apply to all Public Water Systems:

- Using surface water.
- Using Groundwater under the influence of surface water.
- That are Community Water Systems serving more than 500 persons.

Within these systems, these rules apply to all operators, operators in training, superintendents and assistant superintendents. The regulations do not apply to administrative supervisors and clerical personnel.

The primary impact of the Operator Certification requirement on Capacity development is the training needed to pass the initial examination, as well as the continuing education requirements needed for renewal. While emphasizing Technical material over Managerial and Financial, the testing and renewal requirements do much to improve and document the professionalism of the water system operators within Rhode Island.

Section 11 of the December 1995 Operator Certification Regulations requires the following training to renew an operator certification after the 3 year period:

Class VSS	3 Contact hours
Class 1	15 Hours (1.5 continuing education units)
Class 2	15 Hours (1.5 continuing education units)
Class 3	30 Hours (3 continuing education units)
Class 4	30 Hours (3 continuing education units)

Appendix C1 New Programs License 2000 and Capacity Development

Description

Rhode Island Department of Health is implementing a Windows-based certification, licensing and enforcement management software program. This software, when fully operational in the summer of 2000, will allow DOH staff access to all public water services' license applications, license renewal, compliance status, public complaints and accounting. Sample and Sanitary Survey results can be entered and tracked using the provided integrated document imaging/management systems. It also automates critical functions such as continuing education, case tracking and disciplinary actions. In addition, License 2000 allows tracking of PWS Operator Certification, and links this information with the license status database.

Advantages

The primary benefits of the software will be better customer service to Public Water Suppliers through faster, more accurate processing of license, samples, and certification issues. Less staff time will be required for administration of programs, freeing staff to provide greater help to operators in the field. Communication will be improved by allowing DOH ODWQ to communicate with the entire group of suppliers, or any subset based upon the compliance data that will be stored in License 2000.

Information Management

One of the biggest challenges of Capacity Development will be the tracking and coordination of the vast quantity of data being collected about each individual PWS. Technical, Managerial and Financial information will be gathered during New System Applications, Sanitary Surveys, and during PWS Surveys. Training attendance and course completion information will be collected during Surveys, course registrations, and Operator Certification application and renewals. Some of this information will be in electronic form, but much, including most existing records, will exist in paper format. License 2000 allows all these pieces of information to be pulled together and indexed under the entry for each license holder. Paper documents, including Sanitary Surveys, can be scanned in and saved as a graphic file, or converted into a text file using the built OCR (optical character recognition).

Licensing

The Licensing module of License 2000 will allow the coordination and tracking of all requirements prior to the issuance of a new or renewed PWS license. Automated reminders for license renewal can be prepared, both individually and in a batch mode. Renewals can be placed into a hold status until an outstanding compliance issue or a billing problem is resolved. Eventually, the software supports the online renewal of licensing and paying of bills, fees and fines.

Appendix C2 New Programs
Public Water Supply Survey

May 22, 2000

Dear Public Water Supplier,

SUBJECT: CAPACITY DEVELOPMENT SURVEY

As you may be aware, the Safe Drinking Water Act (SDWA) as amended in 1996 provided the State of Rhode Island with significant funding to create a Drinking Water State Revolving (Loan) Fund. In addition, a percentage of the fund is allocated to provide training and technical assistance to water suppliers. In order to serve your needs, and to help select the training and technical assistance that will benefit the greatest number of water suppliers, we are asking you to take a few minutes to complete the enclosed survey.

We understand how busy you are, and have kept the survey as short as possible. The survey looks at the three areas of Capacity Development mentioned in the SDWA. These areas, Technical, Managerial, and Financial, look at how well positioned your water system is to meet the present and future needs of your customers. The collection of this information will allow us to develop new support programs and training that will allow you to better manage and operate your systems.

We would like to receive the completed surveys back as soon as possible, but no later than June 15th. **Your cooperation is greatly appreciated. Please note the invitation to participate in the Capacity Development Advisory Committee contained on page two. Please do not hesitate to contact me if I can be of assistance in helping you complete this survey.**

Sincerely,

John T. Friedlander
Capacity Development Coordinator

Introduction

The Rhode Island Department of Health (DOH) is creating a Capacity Development Strategy to ensure that the state's public water systems have, and will continue to have, the ability to provide safe drinking water to their customers. To ensure that the strategy meets the needs of the state's public water systems, we are asking each Public Water Supplier to provide information about your system's capacity and to identify ways that we can help you expand your capabilities.

Capacity Development

Capacity development is the process by which a PWS acquires, maintains, and builds upon the technical, managerial, and financial capabilities that enable the system to consistently provide safe drinking water to customers in a reliable and cost-effective manner.

- **Technical Capacity** refers to a water system's ability to operate and maintain its infrastructure (treatment, storage and distribution systems).
- **Managerial Capacity** refers to the expertise of the water system's personnel to administer the system's overall operations.
- **Financial Capacity** refers to the financial resources and fiscal management that support the cost of operating the water system.

Capacity Development Strategy

The objectives of the state's Capacity Development Strategy are to:

1. Establish a **capacity baseline** and **measure improvements**.
2. **Identify** which of our PWSs are most in need of improving their technical, managerial, and financial capabilities.
3. Work with the PWSs to determine how the State and the State's technical assistance partners can be the **most effective**.
4. **Provide** the **technical assistance** necessary to ensure capacity in all public water systems.

How to Help

You can share your input and help to ensure the effectiveness of the strategy by:

1. **Joining the Advisory Committee made up of representatives from Federal, State, and Local governments; the water industry; technical assistance providers; and public health, educational, and financial organizations. The first meeting is scheduled to be held Wednesday, May 31, at 1pm at DOH (Cannon) Building, 3 Capitol, Providence, RI.**

2. **Participating in one of the regional workshops. Locations and times are to be determined.**

3. **Filling out the attached survey.**

If you would like to participate on the Advisory Committee, attend a public meeting, or need any additional information on capacity development or the Capacity Strategy, please contact:

The Office of Drinking Water Quality, RIDOH
3 Capitol Hill
Room 209, Cannon Bldg.
Providence, RI 02908-5097
Phone: 401-222-6867
e-mail: safewater@doh.state.ri.us
Please visit:
http://www.health.state.ri.us/environment/dwq.htm

PWS Capacity Survey

#	Part One: Technical Questions	Yes	No	Don't Know	N/A	Help!
T1	Does your system have a source water protection plan?					
T2	Does your system have an inventory of potential sources of pollution within the source area?					
	Water Quantity & Quality	**Yes**	**No**	**Don't Know**	**N/A**	**Help!**
T3	Is your water quantity adequate for the next 5 years?					
T4	Do you measure and record average daily water pumped?					
T5	Do you measure and record peak daily water pumped?					
T6	Do you know the maximum daily water that can be pumped?					
T7	Were you able to meet demand during recent droughts?					
T8	Does your source meet drinking water standards without treatment?					
T9	Does your source meet drinking water standards with limited treatment?					
T10	Does your source require extensive treatment to meet drinking water standards?					
	Design & Documentation	**Yes**	**No**	**Don't Know**	**N/A**	**Help!**
T11	Does your system have accurate design plans and specifications?					
T12	Does your system have accurate distribution maps?					
T13	Does your system have accurate technical manuals & diagrams?					
T14	Do you have a preventative maintenance schedule?					
	Other	**Yes**	**No**	**Don't Know**	**N/A**	**Help!**
T15	Does your system calculate and control water loss?					
T16	Are all sources of supply and all customers metered?					
T17	Do you have your pumps and motors inspected annually by a qualified contractor/inspector?					
T18	Do you have your treatment equipment inspected annually by a qualified contractor/inspector?					
T19	Do you have emergency electrical generation capability?					
T20	If yes in T19, has it been tested within 6 months?					
T21	Do you have adequate spare parts to cover emergencies?					
T22	Has your system had a sanitary survey conducted within the last five years?					
T23	If yes, have all issues identified survey been corrected?					
T24	Do you have an accurate estimate of equipment life expectancy, and a plan to replace equipment as needed?					
T25	Are locks and fencing used to prevent system tampering?					
T26	Do you anticipate your system will be able to meet demand in five years?					
T27	Do you anticipate your system will be able to meet demand in ten years?					

#	Part Two: Managerial Questions	Yes	No	Don't Know	N/A	Help!
M1	Does your system have a System Management Plan?					
M2	Does your system have written operational policies?					
M3	If M2 is yes, are the policies up to date?					
M4	Does your system have written personnel policies?					
M5	If M4 is yes, are the policies up to date?					
M6	Is the person in charge clearly defined?					
M7	Is there a staffing organizational chart?					
M8	Does your system have a Conservation Plan?					
M9	Does your system have a written Emergency Management Plan, including phone numbers of key people?					
M10	Does your system have a process for sharing information with and getting input from its customers?					
M11	Do you use technical assistance providers?					
	Training	**Yes**	**No**	**Don't Know**	**N/A**	**Help!**
M12	Is the system manager(s) trained in system management?					
M13	Is (are) your operator(s) certified?					
M14	Does your system have a written Training Plan?					
M15	Do system personnel attend appropriate training?					
	Other	**Yes**	**No**	**Don't Know**	**N/A**	**Help!**
M16	Does your system have an employee safety program?					
M17	If you use email, what is your address? _____					
M18	If you have a web site, what is your web address? _____					
M19	Would your system be interested in local partnerships to share training, water, buying power, staff and/or equipment?					
M20	Would your system be interested in regional partnerships to share training, water, buying power, staff and/or equipment?					
M21	Have you considered merging with neighboring suppliers?					

#	Part Three: Financial Questions	Yes	No	Don't Know	N/A	Help!
F1	**Does your water system have a written annual budget?**					
F2	**Does your budget depreciate existing equipment?**					
F3	**Does your water system have written financial policies?**					
F4	**Does your system have a written long-range (five-year) budget, or financial plan?**					
F5	**Does your system use monthly financial statements or other appropriate budgeting methods?**					
F6	**Does your system have a monthly financial review (other than operator)?**					
F7	**Does your system have an annual financial audit (other than operator)?**					
F8	**Are you aware of the life expectancy and replacement costs of major pieces of equipment?**					
F9	**Does your system have a written capital improvement plan (at least ten years)?**					
F10	**Does your current rate structure cover current expenses?**					
F11	**Does your current rate structure cover replacement costs?**					
F12	**Does your current rate structure cover an operating cash reserve fund or debt authority?**					
F13	**Is your billing collection rate at least 95%?**					
F14	**If water** is not **your primary business, do you track water related costs separately from other expenses?**					
F15	**Do you regularly review your water rates?**					
F16	**Have you calculated the true cost of water you provide (including cost of raw water, treatment, distribution & replacement)?**					

Survey Results Go Here
(available upon request)

Appendix C3 New Programs DWSRF Outreach Services for Small Water Systems

The Office of Drinking Water Quality of the Rhode Island Department of Health has issued a RFP for contracted outreach services for the small public water systems in Rhode Island. This group is comprised of 110 identified systems, 70 small community systems and 40 non-transient, non-community public systems, each of which supply 10,000 or fewer customers. The outreach program will provide information about the RI DWSRF directly to the small water systems.

The specific contractor for this technical assistance program has yet to be determined. The requirements of program consist of:

1. Development of an educational outreach brochure targeting RI's small water suppliers with information about the State Revolving Fund.
2. Preparation of a "How-To" Technical Bulletin on financing drinking water improvements with the SRF.
3. Conduct three public information meetings targeting water systems, town officers, and planning officials financing drinking water improvements.
4. Publicize SRF in the general print media and in water utility outlets.
5. Make site visits to all 110 eligible outlets during an 18 month period to explain the SRF program and provide hands on assistance in identifying needs and applying for SRF loans.
6. Identify twelve potential eligible borrowers under the SRF program for follow-up visits.
7. Meet with RIDOH staff periodically.
8. Respond to referrals from the RIDOH.

Appendix C4 New Programs
CCR Assistance for Small Water Systems

The Office of Drinking Water Quality of the Rhode Island Department of Health has issued a RFP for contracted services to develop the Consumer Confidence Reports (CCR) for the small public water systems in Rhode Island. This group is comprised of 110 identified systems, 70 small community systems and 40 non-transient, non-community public systems, each of which supply 10,000 or fewer customers. The assistance program will provide prepared CCRs directly to the small water systems, ready for copying and distribution.

The specific contractor for this technical assistance will be Maine Rural Water. The requirements of program consist of:

1. Development of Consumer Confidence Report for each of the Rhode Island Public Water Systems that supply 10,000 or fewer customers.
2. Utilize data provided by the RIDOH to prepare the CCRs.
3. Assist the management of the small PWS in planning the distribution of the CCRs.
4. Meet with RIDOH staff periodically.
5. Respond to referrals from the RIDOH.

Appendix C5 PWS Training & Technical Assistance

The Capacity Development PWS Training & Technical Assistance Program will be expanding on and providing focus for a number of existing programs, as well as developing new programs. To date, most Capacity Development training has concentrated on Technical issues, with a target audience of operators. Qualifying for and maintaining Operator Certification has been seen as the driving force, with Total Classrooms Hours (TCHs) and Continuing Education Units (CEUs) being the primary motivation. On-site technical, as well as limited financial and managerial assistance, is presently provided by Department of Health employees during sanitary inspections.

Financial and Managerial training is not presently being conducted, and will be a difficult "sell" to many of the PWSs. Non-community systems are wary of sharing financial information with the state, and distrust new programs that are not based on regulations. New programs in these two areas will need to be offered through existing Technical Assistance providers that have gained the trust of the water suppliers. Where necessary and appropriate, DWSRF set-aside funding can be efficiently used to expand the scope and reach of existing programs, or design new programs, to reach a broader population.

Capacity Development training can be divided into two targeted audiences. These groups are the:

1. Operators
2. Owners/financial advisors/water members

Operators

The Operators group includes the employees and operators of the 481 Public Water Systems within the state of Rhode Island. This group is most interested in training in the technical area, although operators of the very small systems often have multiple areas of responsibility with a corresponding expanded training need. Classroom based technical training needs are currently being addressed with an Operator Certification course being taught by New England Water Works Association (NEWWA). This course is designed to include two full days of treatment training, and two full days of distribution training.

One-on-one technical assistance is currently being delivered by circuit riders from Atlantic States Rural Water &Wastewater Association (ASRWWA). This organization will also be marketing DWSRF information and providing loan application assistance to PWSs under a separate contract. Expansion of the existing contract to include additional Financial and Managerial content is being investigated.

The Capacity Development Program plans to expand training, based upon feedback from the initial classes and visits. Classroom expansion is planned to include new courses similar to of the Managerial and Financial half-day courses being piloted by NEWWA in Massachusetts.

Financial needs of the very small systems will be addressed with a proposed set-aside work plan to provide PCs, software and training to small water systems needing to improve their financial management.

Improving management efforts of the larger systems will be addressed with a proposed set-aside work plan to provide GIS training and support to the water systems, while working with RI DEM to improve the availability of water related GIS information.

2. Owners/financial advisors/water board members

In larger systems, the Financial and the Management personnel are most often not the people who have been receiving technical training. Only in very small systems is the person fixing the pump the same individual ad the person applying for the loan. The State does not have a reliable method of communicating with the key players in the financial area. Improving this communication is important, as we try to maximize the awareness and utilization of the DWSRF monies. Reaching this audience will involve new efforts, including a new drinking water newsletter, expanded web based information, and in-person delivery of material from circuit riders and Department of Health staff.

Training plans include developing a financial capacity development course for Water Board members and Commissioners. This course will cover many of the issues addressed in the NEWWA half-day financial course, but will be targeted to this specific audience.

Appendix C6 New Programs Contingency Planning: Water Supply Development Studies and Capacity Development

Rhode Island is in a relatively unique situation in that close to 60% of the residents get their drinking water through a single water system, Providence Water. A goal of the Capacity Development Program has been, and will continue to be, continued assurance of the capacity of Providence Water. At the same time, however, the Capacity Development Program also seeks to encourage the diversification and development of alternate water supply sources throughout RI so as to reduce the State's dependence on this single supply.

The following studies are included in this program:

1. Supplemental Water Supply Study for Providence Water Supply Board Contract with Maguire Group, Inc.

   The mission of this project is to identify potential water supplies that could be utilized during a water shortage resulting from a natural disaster or act of terrorism to prevent water supply interruptions/failure to Providence Water customers. If delivery systems are incapacitated at the Scituate Reservoir (the State's largest source of water) and/or the Providence Water treatment facility, the majority of the water consumers in Rhode Island would lose their water supply within a few days, even under the strictest water restrictions. Therefore, losing the supply to Providence Water itself. The loss of the Scituate supply for a protracted period of time would severe human suffering and substantial economic loss to the people and commerce in Rhode Island.

   Therefore, the fundamental target of this project is to plan for the development of approximately 50 million gallons per day of water supply separate and distinct from Providence Water's existing sources and that would not be coincidentally vulnerable to the same event or condition as existing sources are. Local Assistance Set-Aside Funds of $300,000 are required to be spent in fiscal year 2002/2003 for this project.

2. Water Use and Availability: Jamestown, RI Contract with the University of Rhode Island,
Dr. Anne Veeger

The objectives of this study are to:

A) Collect water-use data for the period 1999-2000 for the Town of Jamestown.
B) Populate and Access database with existing and estimated water-use data for Jamestown.
C) Estimate water availability on Jamestown by developing and island water budget.

Local Assistance Set-Aside Funds at $ 37, 131 are required to be spent in FY 2002/2003 for this project.

Appendix D1 Comments & Responses
Factors That Encourage/ Factors That Impair

Technical	
Factors That Encourage	**Factors That Impair**
Operator certification A1, A2	Inadequate supplies A4
Technological advancement A3 Computer systems, trained people A6	Ease of finding water leads to proliferation of small systems, lack of interest in regional systems A1, A8
101 vs. 201 vs. 301 course progression A2	Bad taste & quality A5, A11
Training (Atlantic States, NEWWA) A1, A3, A5, A8, A9, A11	growth A1
Concise, simple language A2	Lack of meter replacement program A5
Different incentives A2	There are no systems that are pre-approved by the D.O.H. that would solve their problem A7
Inspections A1	Cost / size of political jurisdiction A1
Complementary curriculum A2	Close scrutiny of how departments work A3
Interconnection program (regionalization) & consolidation A1	Potential contamination sources affecting water supply quality A9
SWAP A1	Limited quantity of water supply
Wellhead A1	System size A11
Supply, adequate A5	

Managerial	
Factors That Encourage	**Factors That Impair**
More accountability A3	Orating A2
listening A2	Lack of management defined long range plans and direction A5, A7
Institutional knowledge of systems by state people because of state size (we can target much better) A1	Information glut A2
Grass roots cooperation A2	General- undirected mailings, etc. A2
Change / create new behaviors A2	Prevalence / promotion of bottled water A1
Consumer Confidence Reports A1	Consumer apathy A1, Public resistance to change A11
Better public perceptions A3	Small systems are not run by people that understand what is going on now and into the future A7
State facilitation A1 State / regional assistance A8	Not certifying managers and accountants A2
Enforcement, threat of A1	parochialism A1
Plan review requirements A1	Threat keeps people from coming forward A1
Possible sharing of information from like minds A3	Time passing (things age) A1
Public education A3, A4 Outreach A6	Size of system: availability of knowledge A3
Public Groups A4	Small system owner apathy A1
Public Utility Commission A4	State does too much A1
Public vocal about desire for safe water A1	Subsidize normal training A2
Purchasing cooperatives A1	Urban sprawl A1
Regulations A1	Inadequate knowledge of where help may be available i.e. financial or technical

Managerial (continued)	
Factors That Encourage	**Factors That Impair**
Targeting / outreach appropriate groups, both in communications / mailings and in services offered-diversified. Technical-operators, financial & managerial- owners, associations A2	Undue imposed regulations A2 Unrealistic regulations A5 Federal & state regulations (too many) A9
State's small size / accessibility A1	Fear of state involvement A7
Advance notice of regulatory changes for planning purposes A4	Blanket incentives A2
Access to information through professional associations or other info channels A6	Bureaucratic / inertia A8
Local high level interest in partnership A8	Management companies unfamiliar with water A8
Local knowledge and experience A8	Politics. "local control", "desire to do the right thing" prevents getting things done. Must get to decision maker A6, A8
Interest in protection / prevention A8	Lack of education A9
Education of customers, administration A9	Small systems fear encroachment by others
System size, large budget A9	Government perceived as intrusive A11
Organization adequate to address all tasks A5	Crisis management
Personnel autonomy	Very small systems unaware or overwhelmed by regulations A11
Maintaining professional standards A6	
Share information A10, A11	
Identification of needs in well developed format A11	
How do we make something good come out of a crisis as it seems the public responds only to bad news, etc. A11	

Financial	
Factors That Encourage	**Factors That Impair**
Money / grants / loans / rates A1, A3, A5, A6, A9 Adequate funding to do what's needed A4	More expensive requirements A1
Financial independence from cities/towns A5	Funding for improvements based on any budget constraints A4
Timely billing A5	Better trained employees means more pay A3
Manager training to save money A10	Fiscal controls A3
Financial training to save money A10	PUC review / resistance to rate increases A1
	Consumer resistance to rate increases Water rates based on what the public will pay A1, A4
	System size / budget A9
	Client based money poor vs. rich A9
	Outside agency A10
	Lack of money / ability to finance loans A6
	Lack of computer systems A6
	Lack of awareness
	Water is too cheap A11